

AUTOMATED NEUROAXIS (BRAIN AND SPINE) IMAGING WITH ITERATIVE SCAN PRESCRIPTIONS, ANALYSIS, RECONSTRUCTIONS, LABELING, SURFACE LOCALIZATION AND GUIDED INTERVENTION

ABSTRACT

Automated spine localizing, numbering and autoprescription system enhances correct location of diseased or injured tissue, even allow multi-spectral diagnosis. Externally located this tissue is facilitated by an integrated self adhesive spatial reference and skin marking system that is designed for a variety of modalities to include MRI, CT, SPECT, PET, planar nuclear imaging, radiography, XRT, thermography, optical imaging and 3D space tracking. The device ranges from a point localizer to a more multifunctional and complex grid/phantom system. The specially designed spatial reference(s) is affixed to an adhesive strip with corresponding markings so that after applying the unit to the skin/surface and imaging, the reference can be removed leaving the skin appropriately marked. The localizer itself can also directly adhere to the skin after being detached from the underlying strip. A spine autoprescription process performs image analysis that is able to identify vertebrae and discs even in the presence of abnormalities.